Curriculum Vitae

Juho Kim

September 2024

Education

09/2019 – 05/2025
University of Toronto
Bachelor of Applied Science in Engineering Science (CGPA: 3.5/4.0)
Major in Machine Intelligence (GPA: 3.8/4.0)
Thesis: Observing the Southern US Honor Culture Using Large-Scale Social Media Analysis
Supervisor: Michael Guerzhoy

Publications

Journals

1. **J. Kim** (2023). PokerKit: A Comprehensive Python Library for Fine-Grained Multi-Variant Poker Game Simulations. In: *IEEE Transactions on Games.* DOI: 10.1109/TG.2023.3325637.

Conferences

2. **J. Kim** (2024). Recording and Describing Poker Games. In: *2024 IEEE Conference on Games (CoG).* (Oral, acceptance rate: 41.1%) DOI: 10.1109/CoG60054.2024.10645611.

1. **J. Kim**, M. Guerzhoy (2024). Extended Abstract: Observing the Southern US Culture of Honor Using Large-Scale Social Media Analysis. In: 10th *International Conference on Computational Social Science* IC^2S^2. (Poster, acceptance rate: 88.6%)

Under Review

2. **J. Kim** (2024). A Large-Scale Open-Source Dataset of Poker Games. In: *IEEE Transactions on Games.* (Invited for *Special Issue on Best of CoG 2024*)

1. **J. Kim** (2024). GPU-Accelerated Counterfactual Regret Minimization. In: *The Thirteenth International Conference on Learning Representations.* Preprint URL: 10.48550/arXiv.2408.14778.

Experience

Employment

Phenom Poker
04/2024 – Present   *Software Consultant*
Researched over 30 regional poker variants and encoded their rules into software.
Implemented real-time control of poker tables in cash-game and tournament settings.

A5 Labs
01/2024 – Present   *Software Consultant*
Created a server environment to benchmark the performances of various poker AI agents and humans.
Implemented various protocols to facilitate poker server/client communications.

Pratt & Whitney Canada
08/2023 – 12/2023   *Automation Engineer Intern*
Digitalized engine part definitions, manufacturing, and uses in CAD software, through CNC and CMM programming.
Developed algorithms to automate and increase the efficiency of digitalization activities.

BMO Financial Group Finance Research and Trading Lab
05/2023 – 08/2023   *Lab Assistant*
Analyzed and Processed daily Trade and Quote data from U.S. equity exchanges for educational trading case development.
Researched statistical methods and techniques for analyzing student learning outcomes.

Huawei Technologies Canada
05/2022 – 05/2023   *Software Engineer Intern*
Developed the Huawei Distributed Cache Services for Redis featuring conflict-free replicated data types and commands.
Automated deployments and integration test suites of cloud database services to achieve around 4000% speedup.

Introspect Technology
05/2021 – 08/2021   *Software Engineer Intern*
Designed or improved testing suites for high-speed digital applications and measurement equipment like jitter-clock, eye scans, and BERT scans.
Researched and implemented various high-speed interface standards and specifications such as SLVS-EC and DisplayPort.

Extracurriculars

University of Toronto Computer Poker Student Research Group
05/2023 – Present   *Director*
Spearheaded numerous poker projects, some of which have seen widespread adoption in both the industry and academia.
Published two papers in academic venues.
Formed partnerships and consulted firms in the poker software space.

	Blue Sky Solar Racing
06/2023 – Present	*Software Lead*
	Developed a centralized vehicle computing platform incorporating fail-safe designs for various failover scenarios.
	Implemented unit tests to test vehicle code logic through hardware mocking.
	Wrote integration tests to test the vehicle in a safe-controlled environment.
08/2022 – 06/2023	*Software Member*
	Developed a distributed control system for the solar vehicle through embedded C software design on STM32 microcontrollers.
	Wrote a battery state-of-charge estimation algorithm with an extended Kalman filter.
	University of Toronto Poker Club
05/2020 – 05/2023	*Co-President / Events Lead*
	Managed and advertized various poker events on the University of Toronto St. George campus.
	Formed coalitions and partnerships with fellow student poker groups in neighbouring universities.

Projects

Software

- PokerKit: An open-source Python library for poker game simulations, hand evaluations, and statistical analysis. GitHub: `https://github.com/uoftcprg/pokerkit`.

- Cardroom: A Django application for poker tournament and table management. GitHub: `https://github.com/uoftcprg/cardroom`.

- PVAT: Python implementations of variance reduction techniques for extensive-form games. GitHub: `https://github.com/uoftcprg/pvat`.

- Revolution: The software for the next generation electrical system for Blue Sky Solar Racing. GitHub: `https://github.com/blueskysolarracing/revolution`.

Standards

- Poker Hand History File Format Specification. GitHub: `https://github.com/uoftcprg/phh-std`.

Datasets

- Poker Hand Histories: A dataset of poker hand histories. DOI: 10.5281/zenodo.10796885. GitHub: `https://github.com/uoftcprg/phh-dataset`.

- Poker Hand Strengths: A dataset of poker hand strengths. DOI: 10.5281/zenodo.10797026. GitHub: `https://github.com/uoftcprg/phs-dataset`.

- Poker Statistical Analyses: A dataset of poker statistical analysis calculations. DOI: 10.5281/zenodo.10797026. GitHub: `https://github.com/uoftcprg/psa-dataset`.

Honors & Awards

Spring 2023 Terminal Midwest Regional

03/2023   *1st Place*

Issued by: Citadel; Citadel Securities; and Correlation One

Awarded the first prize for developing the best algorithm in the Midwest Region from a field of 100 competitors.

2023 Rotman International Trading Competition

02/2023   *4th Place*

Issued by: Rotman School of Management; University of Toronto; and BMO Finance Group Finance Research and Trading Lab

Placed fourth place overall and awarded first prize in the algorithm case of the trading competition from a field of 40 universities.

2019 Canadian Computing Olympiad

05/2019   *Silver Medalist*

Issued by: University of Waterloo

Competed in a two-day long competitive programming competition from a field of 30 top high-schoolers in Canada.

Standardized Tests

- GRE: 162 in Verbal (89th Percentile); 167 in Quant (83rd Percentile); 3.5 in AWA (38th Percentile)
- IELTS: Band 8.5 (9.0 in Listening, 9.0 in Reading, 7.0 in Writing, 8.0 in Speaking)

Personal Information

- Full Name: Juho Kim
- Citizenship: Canada
- Languages: English and Korean
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- Email: juho-kim@outlook.com
- Website: `https://juhokim.net/`
- Google Scholar: `https://scholar.google.com/citations?user=iHbLHD0AAAAJ`
- Github: `https://github.com/AussieSeaweed/`
- LinkedIn: `https://www.linkedin.com/in/aussieseaweed/`